

Panel Chair Update

Business Technologies Panel

Jamie Breakfield, Panel Chair

HII – Ingalls Shipbuilding

Organization



Executive Control Board

Program Administrator

Extended Team

Major Initiatives

Information, Design, & Integration	Ship Production Technologies	Infrastructure, Logistics, & Sustainment
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Panels

Ship Design & Material Technologies	Electrical Technologies	Workforce & Compliance
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Ship Warfare Systems Integration	Planning, Production Processes & Facilities	Sustainment
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Business Technologies	Surface Preparation & Coatings	
	Welding Technology	

Business Technologies Panel Leadership

Panel Chair: Jamie Breakfield, Ingalls Shipbuilding

Panel Vice-Chair: Patrick Roberts, SSI-USA

Business Technologies Panel's Mission

- Focus on emerging digital capabilities, blending process and information to develop advanced solutions that support product lifecycles from concept to disposal.



Panel's Purpose

- Strategically align with US Navy Initiatives



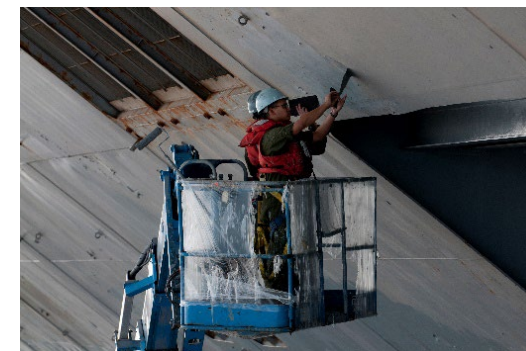
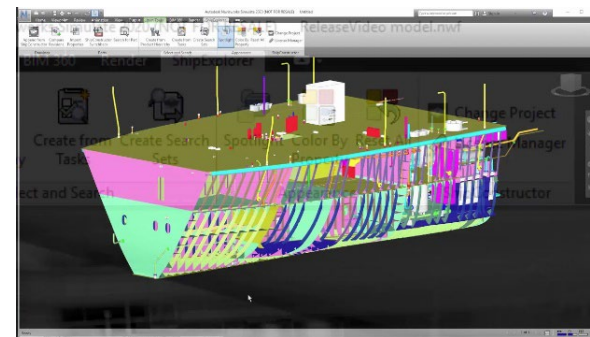
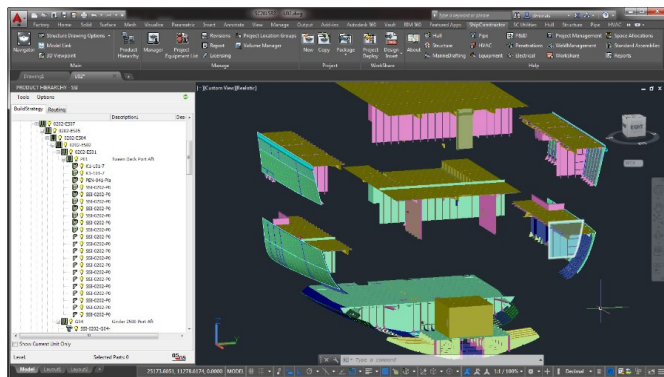
Business Technologies Targeted Initiatives

1. Advance and Leverage Digital Shipbuilding/MB(x)
2. Solutions and best practices to support enterprise business processes and information management
3. Incorporate autonomy in design processes and decision support tools
4. Cybersecurity Compliance, Solutions, Education & Awareness

Panel Projects

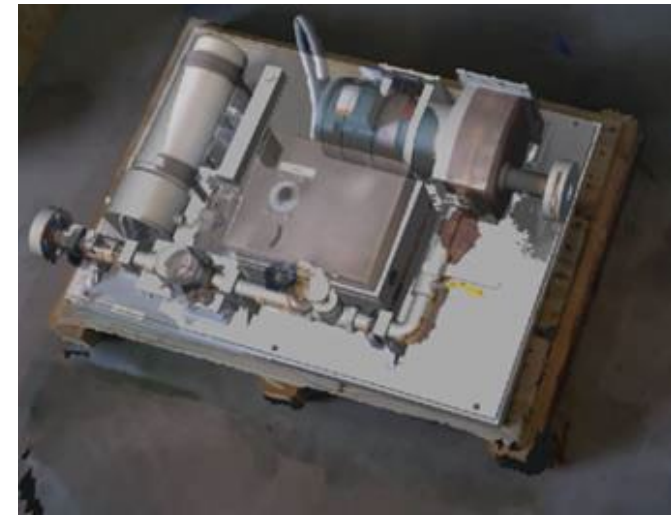
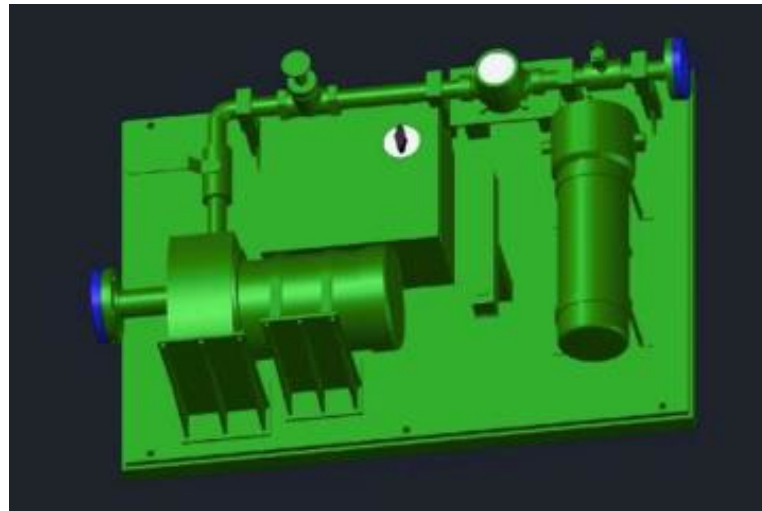
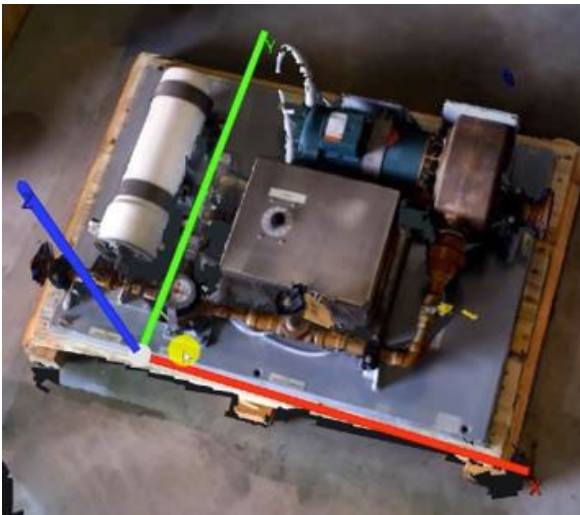
2021 Panel Projects

- Automated Detailed Planning and Instant Earned Value Control
 - Benefit: Automate the detail planning process coordinated with the project plan through a direct integration with engineering data allowing for automated sequencing, budgeting, scheduling, resource allocation, and Earned Value Management System (EVMS) control.
- Utilizing Ship Product Model Information for Corrosion Control and Coatings
 - Benefit: Better coupling of product model to paint schedule; leverage product model to assist with paint schedule creation and automate calculation of design variables.



2022 Panel Project

- Equipment Validation Through Scanning
 - Benefit: Provide an efficient process using a COTS handheld 3D scanner to digitally compare items at receiving to the 3D model for verification of form/fit.



2023 Panel Project

- Optimized Weld Records Phase Two
 - This project builds on the Optimized Weld Project 2021-481-001 by expanding the functionality of the software to include gauge integration, WPS form and others, welder qualification tracking and flagging, possible path to NMD integration and management by exception for business intelligence.



Panel Chair Update

Ship Design and Material Technologies Panel

Monika Skowronska, Panel Chair

General Dynamics – NASSCO

NSRP SDMT Leadership

- Monika Skowronska: Panel Chair
- Vicky Dlugokecki: Panel Vice Chair
- Dan Sfiligoi: Major Initiative Team Lead
- Michael Gerardi: Major Initiative Team Lead



Ship Design & Material Technologies

Chair: **Monika Skowronska**
(NASSCO)

Vice Chair: **Victoria Dlugokecki**
(Naval Consultant)

Information, Design, and Integration

Lead: **Dan Sfiligoi**
(NASSCO)

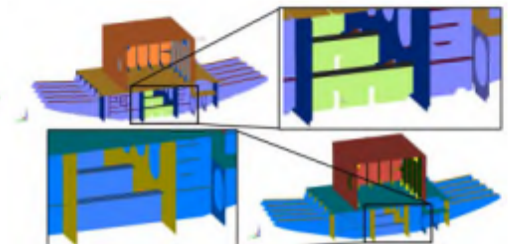
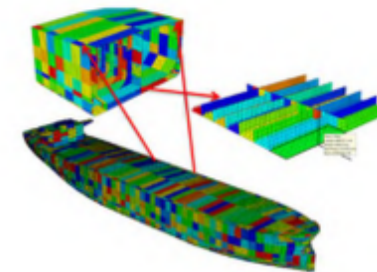
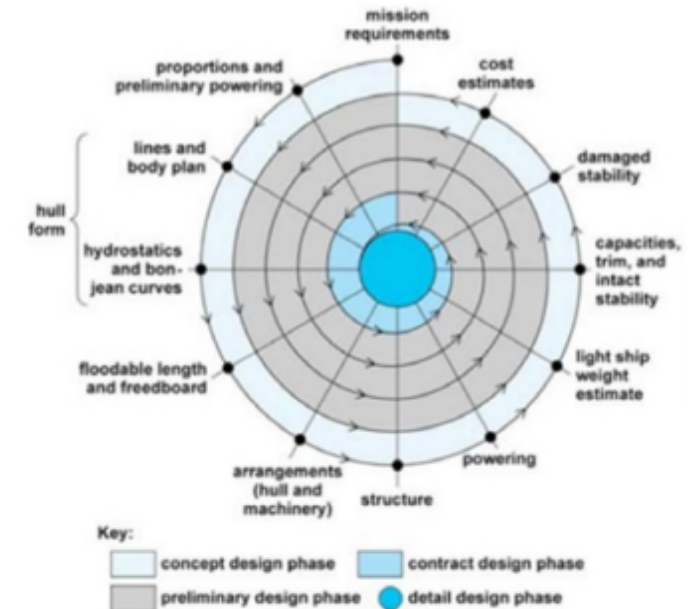
Lead: **Andrew Woll**
(FMM)

Ship Design and Material Technologies Panel's Mission

The SDMT Panel focuses on providing increased capabilities and cost reduction initiatives across the complete spectrum of design processes and the identification of materials to support rapid and efficient development, construction, sustainment, and disposal.

SDMT Specific Focus Areas

- Improving technologies in early ship design.
- Improving integration of all shipboard systems and undefined mission systems during design.
- Improvement of design technologies, including design and analysis tools, to reduce costs in production engineering and construction.
- Investigate material technologies to improve material performance, standardization, and overall material processes while reducing part count and total ownership costs during all phases of ship design and construction.
- Reduction of re-work in all areas of ship design and construction.
- Improving specifications and standards and investigating new technologies that can be incorporated into Rules or technical requirements documents for both commercial and naval shipbuilding programs.
- Collaborate and partner with other NSRP panels on topics and initiatives that encompass the other panel focus areas.



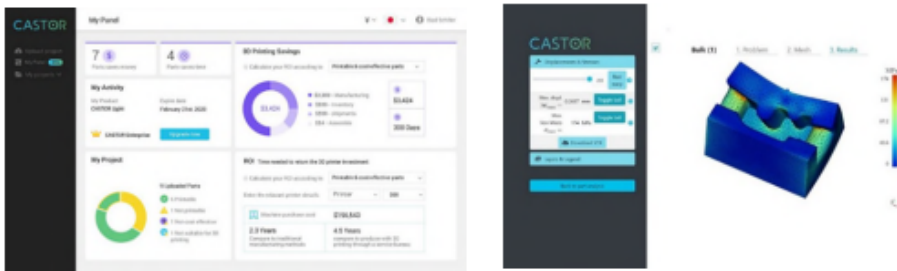
<https://www.nsrp.org/sdmt-panel/>

Panel Projects

Current SDMT Panel Projects

3D Printing of Supply Sensitive Parts

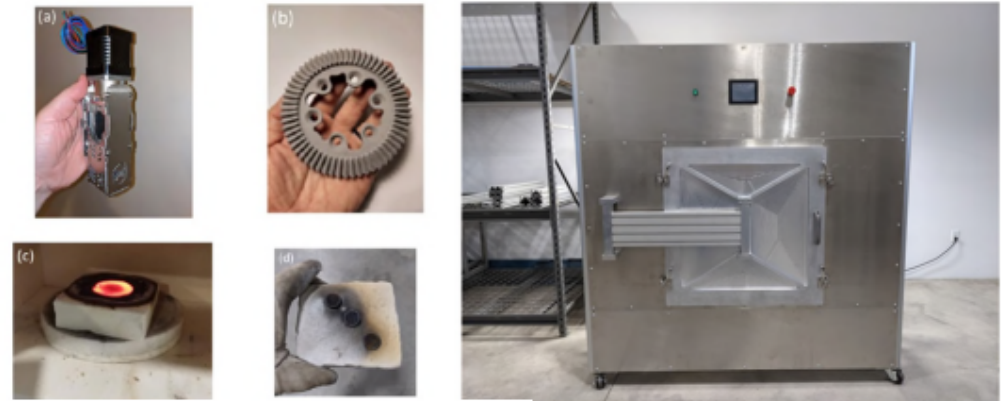
- NASSCO
- Electric Boat
- Additive Manufacturing Tech Warrant Holder,
- Submarine Industrial Base Director,
- PEO SSBN
- **Objective:** The goal is to conduct research into parts which currently are not sufficiently meeting NAVY's production yield requirements. The objective is to evaluate and recommend part candidates which are best suited for the AM process. This will be achieved through partnering with an AM software company. Further research will be done to find commonalities and AM printers will be proposed which apply to broadest number of parts.



Development of an AM Capability for CuNi

- **Project Lead:** Scott Kasen, ElectraWatch
- **Shipyards:** Austal, Electric Boat, Metallum 3D
- **NAVY:** NAVSEA 05T, Dr. Justin Rettaliata

Goal: To enable a new generation of CuNi components, the project proposes to employ a first-of-its-kind hybrid manufacturing process. The approach uses the innovative combination of sand 3D printing and microwave heating. The use of this new hybrid process – which does not rely on intense local melting or a powder bed – overcomes the challenges of a Laser Powder Bed Fusion metal 3D printing processes.



2023 Projects Selected for Award by ECB

- Navy Standard Bookend Fixtures for Shock Testing
 - Lead: Gibbs and Cox
 - Project Participants: Ingalls, NAVSEA 05P1
- Industry Recommended Framework and Implementation Roadmap for Delivering Cyber-Ready Ships
 - Lead: ABS
 - Project Participants: GD BIW, GD NASSCO, NAVSEA 05D, USCG CG-9, NOAA
- Data-Centric Detail Design and Drafting Process Improvements
 - Lead: Hawk Technologies
 - Project Participants: Fincantieri Marinette Marine, Ingalls Shipbuilding

Panel Activities

Past, Current, and Future

BT/SDMT Joint Panel Meeting Seattle, WA

July 2023

- 84 Attendees Total (45 in person + 39 virtual)
- Tour of NUWC Keyport Division
 - AR/VR Lab and AM Facility
- 2.5 days
 - 20 Presentations



Technology Investment Plan Update (TIP)

- January 30-31 NSRP held a workshop in Summerville, SC to update TIP guidance document.
- The SIP and TIP identify high priority issues and current industry challenges where research proposals would be of particular interest.
- Information Design & Integration Sub Initiatives:
 1. Reduce time for qualification and application of systems, materials, components and manufacturing technologies
 2. Advance and leverage digital shipbuilding
 3. Identify and implement flexibility, modularity, and scalability across platforms
 4. Investigate and apply solutions and best practices to support enterprise business processes and information management
 5. Develop design guidance to support, maintain, and sustain unmanned platforms
 6. Advance design, materials and processes that reduce sustainment/modernization costs and schedule
 7. Incorporate autonomy in design processes and decision support tools
 8. Define, integrate and implement innovative approaches to cybersecurity compliance, solutions, education & awareness



<https://www.nsrp.org/resource-library/>

Panel Project Solicitation

- **COMING SOON!** (estimated May 2024 release)
- Open Discussion Panel Project Ideas – Thursday morning 5/2 10:00
- Panel Project Pre-Solicitation Notice has been released
 - Program funding ceiling will be increased from \$150K to \$200K
 - ECB member shipyard participation requirement will be updated to “Participation by at least one U.S. shipyard is required”
- Solicitation resources may be found at <https://www.nsrp.org>

Future Activities – Panel Meetings

- Next BT/SDMT/?? Joint Panel Meeting
 - ~August, 2024

Questions?

